Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C 20554

In the Matter of Allocation of Spectrum Below 5 GHz Transferred From Government Use	)))	ET Docket No. 94-32

REPLY COMMENTS OF NATIONAL BROADCASTING COMPANY, INC.

National Broadcasting Company, Inc. ("NBC") hereby replies to the comments filed by The Association of Maximum Service Television, Inc. ("MSTV") in this docket. NBC fully supports MSTV's comments. As explained in more detail in these comments, the spectrum currently allocated for Broadcast Auxiliary Services ("BAS") is insufficient to meet current demand during peak times in major markets. Both the number of users of this spectrum and their individual needs are growing so rapidly that the demand cannot reasonably be accommodated through even the best frequency coordination efforts. Because this BAS spectrum is the sine qua non of electronic news gathering (ENG), the public faces a real risk of significant disruptions in the delivery of television news unless steps are taken to alleviate the BAS spectrum congestion, even before demand is increased precipitously with the advent of ATV services. MSTV's comments offer a prospective solution to a serious problem that lies ahead.

Background

NBC has long been a user of BAS, both in its network and station operations. We have long advocated the allocation of adequate spectrum to the BAS services to alleviate the ever-present problem of over crowding, which increases as more entities become eligible for use of the spectrum allocated to BAS. As a practical matter, limiting demand is not feasible, and in any case the increasing demands for the BAS spectrum results from trends that are consistent with established public policy goals. For instance, more and more independent television stations and Fox network affiliates are aggressively building local news services, and existing local news departments are expanding the number of hours each day that are devoted to local news and public affairs programming. All of these new and expanding users compete for BAS spectrum, especially during traditional local news hours.

The BAS spectrum is also a critical transmission link for many non-broadcast uses, including uses by existing and new cable networks and local cable news services. As broadcast transmitters are collocated or moved beyond population centers for environmental and aesthetic reasons, new STL links become necessary. These developments inevitably will require that the growing problem of BAS congestion be addressed, and clearly point toward the need for additional spectrum to satisfy future ATV auxiliary needs.

Every day, in large and small markets, television stations provide their viewers with live, on the spot coverage of important local, regional, and national events. Even when coverage is not "live", local stations are able to feed direct video and audio of late-breaking news stories back to their newsrooms from remote locations in large markets in time for timely inclusion in daily newscasts. As a result, the ability of local and even network and cable news services to provide timely and comprehensive coverage of important events has dramatically improved. ENG is the foundation of this vital public service. Without ENG, local television news, as we know it today, could not exist.

The intense and growing use of BAS for ENG services also highlights how deceptive measurements of actual BAS use can be. In major metropolitan areas, the average use over a 24-hour period might be found to be quite low. Nonetheless, during certain times, including the early evening hours from about 4:00 to 7:00 PM, virtually all channels would be found to be in continuous operation (with would-be users waiting in queue) in service to the many local broadcast and cable news programs. Thus, it is critical that any measurements accurately reflect <u>actual</u> use of broadcast auxiliary spectrum, which varies enormously throughout the day. Spectrum measurements (and allocations based thereon) that do not account for the way people actually work and live cannot effectively serve the needs and interests of the public.

Increasing Congestion in the BAS Spectrum Threatens Vital Services and ATV Implementation

The BAS spectrum will be as vital to providing excellent service on ATV stations as it is to NTSC stations. ATV broadcasts, which in many or most cases will require entirely new equipment from camera to transmitter (including ENG operations and studio-transmitter links), could effectively double the demand for broadcast auxiliary spectrum in major markets, even before accounting for double digit growth in demand that is already occurring. As discussed in MSTV's comments at pages 4-6, the existing broadcast auxiliary spectrum is clearly insufficient to support current demands, much less the enormous increase engendered by ATV implementation.

Others have already acknowledged the need for additional auxiliary spectrum to support ATV. The NTIA, which has significant expertise, recently performed measurements on the Broadcast Auxiliary Spectrum. The study acknowledged that "these bands are already crowded in many major markets" and projected that "approximately the same growth rate (15%) [will] continue for the next five years".[1]

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[1]"A preliminary Look At The Spectrum Requirements For The Fixed Services" U.S. Department of Commerce, Institute For Telecommunication Sciences, May 1993, Robert J. Matheson and F. Kenneth Steele

Similarly, the FCC Advisory Committee on Advanced Television Services (ACATS) has recommended that additional spectrum be allocated for BAS services:

> The rapid strides in video compression, fiber optics, and generally with improvements to microwave equipment and techniques cannot be disputed. But it has become obvious that some additional spectrum will be needed, primarily in major markets—at least for the short term—to meet the requirements for ATV broadcast-support spectrum.

FCC Advisory Committee on Advanced Television Services Fourth Interim Report of the Spectrum Utilization and Alternatives Working Party of the Planning Subcommittee (March 1991). The Report's findings also included the following:

- Broadcast Auxiliary Spectrum, consisting of STL and other auxiliary spectrum circuits are critical to broadcasters.
- Program contribution circuits (ICR, SEL, TSL, ENG, RPU) generally require better performance than the STL.
- A new STL will be needed if the ATV transmitter is not co-sited with the existing NTSC transmitter.
- Digital compression techniques may have a major impact on the design of broadcast auxiliary circuits, but not in the near-term future.
- An NAB survey of the top markets indicated that currently allocated microwave channels are used to the fullest extent with the likelihood of additional capacity within the current structure being almost nil.
- Spectrum above 1 GHz was examined to identify blocks of spectrum that might possibly be used. <u>The bands 4.40-4.99 GHz and 7.75-7.90 GHz</u> represent the best possibilities for providing additional channels, at least for the short term for ATV broadcast-support spectrum.
- Use of optical fiber as a substitute for radio frequency transmissions may not be viable in many circumstances, such as where these facilities are not available or

economically viable, and where mobility is not required.

Id.

The Commission should not make spectrum allocation decisions that, by failing to account for the massive new demands on BAS spectrum, would handicap ATV services or which would jeopardize the prospects for providing competitive services on ATV channels during the transition from NTSC. Television broadcasters must be assured of sufficient broadcast auxiliary spectrum to allow for competitive ATV services.[2]

Allocating Additional Spectrum is the Only Practical Way to Accommodate ATV Auxiliary Spectrum Needs

While digital compression techniques may offer some long term relief, they cannot meet the challenge of accommodating ATV auxiliary spectrum needs. The need for mobility for most BAS uses rules out a transition to optical fiber. The only practical way to ensure the availability of adequate auxiliary spectrum to accommodate the development of ATV services is to allocate spectrum specifically for that purpose.

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2 In most major markets, frequency congestion in the TV auxiliary band is substantial, and coordination is becoming increasingly more difficult. NBC has participated actively in the voluntary BAS frequency coordination process in all locations in which we use BAS. We have found this to be an effective way to minimize the inevitable problems and confusion attendant upon shared use of scarce BAS spectrum. Indeed, we have urged that frequency coordination be required of all BAS users.

MSTV's comments are correct in pointing out that, of the three bands of spectrum the NTIA has tentatively designated for transfer to private sector use, only the 4660-4685 MHz band can accommodate the auxiliary service needs of advanced television services. The need for ample bandwidth to accommodate the enormous data requirements of real-time video transmissions, and the mutual incompatibility of broadcast auxiliary services with other potential users of the spectrum, makes the band between 4660-4685 MHz the only feasible option of the three bands slated for reallocation.

For these reasons, NBC strongly supports the comments of MSTV and respectfully asks the Commission to propose allocation of the 4660-4685 MHz band for BAS services for advanced television.

Respectfully submitted,

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